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(54) 【発明の名称】 木材防腐・殺虫剤

(57) 【要約】

【課題】 液剤の調製工程が簡単に溶媒を多量に含まず、水で希釈可能な高濃度の木材用防腐・殺虫剤とし、しかも原液および希釈液が長時間分離せず、安定性に優れた木材用防腐・殺虫剤とし、特に40倍以上、好ましくは100倍以上の高希釈倍率で使用できる高濃度性液剤の木材用防腐・殺虫剤とすることである。

【解決手段】 木材防腐成分(A)および殺虫成分(B)を有効濃度の40倍以上含み、水を希釈剤として製剤されかつ水で希釈して施用する液状の木材用防腐・殺虫剤において、前記木材防腐成分(A)としてプロピコナゾールを配合し、前記殺虫成分(B)として、トラロメスリン、ピフェントリン、ベルメトリン、イミダクロプリド、フェノプカルブ、フィプロニルおよびピリプロキシフェンから選ばれる一種以上の殺虫剤を配合し、これら両成分の配合重量比(B/A)を1.0~15.0とした木材用防腐・殺虫剤とする。

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Notes:

1. Untranslatable words are replaced with asterisks (*).
2. Texts in the figures are not translated and shown as it is.

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CLAIM + DETAILED DESCRIPTION

[Claim(s)]

[Claim 1] In liquefied preservation from decay and insecticide for wood which actual concentration contains a wood preservation-from-decay component and an insecticidal component 40 or more times, and is manufactured considering water as a diluent, and dilutes with water, and is used Blend propiconazole as said wood preservation-from-decay component, and as said insecticidal component The preservation from decay and the insecticide for wood characterized by blending the insecticide more than a kind chosen from tralomethrin, bifenthrin, permethrin, imidacloprid, fenobucarb, fipronil, and pyriproxifen.

[Claim 2] In liquefied preservation from decay and insecticide for wood which actual concentration contains a wood preservation-from-decay component (A) and an insecticidal component (B) 40 or more times, and is manufactured considering water as a diluent, and dilutes with water, and is used Blend propiconazole as said wood preservation-from-decay component (A), and as said insecticidal component (B) The preservation from decay and the insecticide for wood characterized by having blended the insecticide more than a kind chosen from tralomethrin, bifenthrin, permethrin, imidacloprid, fenobucarb, fipronil, and pyriproxifen, and setting the compounding weight ratio (B/A) of both [these] components to 1.0-15.0.

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to liquefied preservation from decay and insecticide for wood which a wood preservation-from-decay component and an insecticidal component are contained in high concentration, and manufactures water as a diluent, and is diluted with water at the time of use.

[0002]

[Description of the Prior Art] Generally the preservation from decay and the insecticide for wood are that the wood used for building materials etc. is invaded by mold and the decay bacillus. They are drugs with the complex operation which has the insect-killing (prevention of the breeding and extermination) nature for exterminating the noxious insect which has the

antisepsis (namely, antibacterial properties) for preventing, and damages the endurance of wood, such as a termite and a bark beetle. Such drugs are made [make them permeate them and] and used for an inside from the wood surface by the suitable method of applying to the surface of the wood of a processing object, or sinking in.

[0003] A well-known wood preservative and the well-known insecticide for wood (called what has especially an ant-killing effect, and a formicide.) were illustrated to the following table 1.

[0004]

[Table 1]

	一般名	性 状	融 点℃
木材 用 防 腐 剤	フピコナール	粘潤な液体	——
	ジフコナール	固体	103 ~105
	ジフオナール	結晶性粉末	103 ~105
	IPBC	結晶性粉末	65 ~67
	サンブラス	粉状結晶	40
木材 用 殺 虫 剤	ビフキシフェン	淡黄色固体	45 ~47
	フィエール	白色結晶	200 ~201
	トロキシノ	樹脂状固体	138 ~143
	ビフェントリン	結晶	68 ~70.6
	ペルメチン	油状	34 ~39
	イミダクロプ	結晶	136 ~144
	フェナキサリ	結晶	40 ~41

[0005]

[Problem(s) to be Solved by the Invention] However, if a solid thing is adopted in ordinary temperature (15-25 degrees C) as the above-mentioned preservation-from-decay component and both components of an insecticidal component when preparing liquefied preservation from decay and insecticide for wood It grinds to a particle with a grain size of 10 micrometers or less about each of these components, or it must dissolve in solvents, such as an organic solvent, and must liquefy, and there is a problem that a manufacturing process becomes complicated.

[0006] As for the preservation from decay and the insecticide for wood, it is desirable to manufacture medicine in the state where it condensed to the predetermined multiple of the actual concentration or the concentration at the time of use (it is usually the ten to 100 time concentration of actual concentration.), to dilute a component at the time of use, and to use it. It is because it is desirable that it is the formulation by which the weight saving was carried out as much as possible by the snug product for the convenience which the processing object is a woody building and uses a large quantity at once in many cases, and it conveys, and saves drugs and circulates them as for the preservation from decay and the insecticide for wood.

[0007] [the preservation from decay and the insecticide for wood condensed and manufactured by such situation] Since manufacture cost will increase as mentioned above, practicality will become low and the solvent which does not still need the liquids and solutions of a final product will be included so much, when many solid components are included in ordinary temperature It became difficult to make the preservation-from-decay component and insecticidal component at the time of dilution into actual concentration, and there was a problem that it could not be made the high concentration nature liquids and solutions especially used for the high dilution magnification of 40 times or more.

[0008] As a diluent for pharmaceutical preparation, moreover, kerosene, xylene, hexane, alkylbenzene, Since oils, and emulsion type the preservation from decay and the insecticide for wood which were prepared by high concentration using organic solvents, such as acetone, methanol, and ethanol, have a problem in the safety and the workability of an organic solvent, its water pharmaceutical preparation which is manufactured considering water as a diluent as a type of pharmaceutical preparation, and dilutes with water, and is used is desirable.

[0009] Moreover, a high-concentration undiluted solution or a high-concentration diluted solution tended to cause separation and a deposit, and the high concentration nature liquids and solutions of the high dilution magnification of 40 times or more (especially 100 or more times) of actual concentration or the concentration at the time of use had the problem that the stability of physical properties was inferior at the time of preservation of an undiluted solution or a diluted solution.

[0010] Then, the 1st technical problem of this invention is considering it as the preservation from decay and the insecticide for wood liquefied at high concentration which solves the above-mentioned problem, the preparation processes of liquids and solutions are easy, and is manufactured considering water as a diluent, and dilutes with water, and can be used.

[0011] Moreover, the 2nd technical problem of this invention is offering the preservation from decay and the insecticide for wood excellent in stability, without an undiluted solution and a diluted solution causing prolonged separation and a deposit, while solving the above-mentioned technical problem.

[0012] The 3rd technical problem of this invention is offering the pharmaceutical preparation liquefied at high concentration which can use especially preferably the preservation from decay and the insecticide for wood for the high dilution magnification of 100 times or more 40 or more times further again while solving the above-mentioned technical problem.

[0013]

[Means for Solving the Problem] In order to solve the 1st and 2nd above-mentioned technical problems, it sets to invention of the 1st of an application concerned. In liquefied preservation from decay and insecticide for wood which actual concentration contains a wood preservation-from-decay component and an insecticidal component 40 or more times, and is manufactured considering water as a diluent, and dilutes with water, and is used Propiconazole was blended as said wood preservation-from-decay component, and the insecticide more than a kind chosen from tralomethrin, bifenthrin, permethrin, imidacloprid, fenobucarb, fipronil, and pyriproxifen was blended as said insecticidal component.

[0014] Moreover, in order to solve the 1-3rd above-mentioned technical problems, it sets to invention of the 2nd of an application concerned. In liquefied preservation from decay and insecticide for wood which actual concentration contains a wood preservation-from-decay component (A) and an insecticidal component (B) 40 or more times, and is manufactured considering water as a diluent, and dilutes with water, and is used Blend propiconazole as said wood preservation-from-decay component (A), and as said insecticidal component (B) The insecticide more than a kind chosen from tralomethrin, bifenthrin, permethrin, imidacloprid, fenobucarb, flupronil, and pyriproxifen was blended, and the compounding weight ratio (B/A) of both [these] components was set to 1.0-15.0.

[0015] The actual concentration to the main mold and the decay bacillus of propiconazole which were adopted as a wood preservation-from-decay component in said 1st invention is the low concentration of 0.03 to 0.05 weight % in general. And since the solubility over water is also comparatively good and is a viscous liquid in ordinary temperature, The preservation from decay and the insecticide for wood which used together with the predetermined insecticidal component and was prepared are simple for the preparation processes as liquids and solutions, and turns into high-concentration preservation from decay and insecticide for wood which is manufactured as a diluent, and dilutes water with water, and can use it substantially excluding a solvent so much. Moreover, an undiluted solution and a diluted solution do not dissociate for a long time, but serve as preservation from decay and an insecticide for wood excellent in stability.

[0016] In addition to the above-mentioned operation, in said 2nd invention, it becomes the liquids and solutions of actual concentration or the concentration at the time of use which can be preferably used for the high dilution magnification of 100 times or more 40 or more times especially by having set the compounding weight ratio (B/A) of the wood preservation-from-decay component (A) and the insecticidal component (B) to 1.0-15.0.

[0017]

[Embodiment of the Invention] [propiconazole of the wood preservation-from-decay component used by this invention] 1- 2-(2, 4-dichlorophenyl)-4-propyls 1 and 3 - Dioxolane 2 - IRU-methyl -1H-1, 2, 4 - It is the wood preservative which contains triazole (designated chemical substance of Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances No.(5)-6187) 90% or more.

[0018] With a viscous brown liquid, the physical properties of propiconazole have an odor slightly and Vapor pressure 0.13mPa in 20 degrees C, The solubility to water the solubility to 100 ppm (20 degrees C), acetone, methanol, and isopropanol 50g or more / 100ml, Solubility [as opposed to 25.90g / 100ml, and propylene glycol in solubility / as opposed to 60g / 100ml, and ethylene glycol in the solubility over hexane] is 50g / 100ml. The viscosity is 74300 Pa-s (20 degrees C) and 1400 Pa-s (50 degrees C). And antimicrobial activity (MIC) is the Aspergillus of mold. It is 6.25-12.5 ppm to nigre (Aspergillus niger). a.i., Key TOMIUMU Grotesque BOSAMU (Cheatomium globosum) It receives. As opposed to <3.125 and PENISHI ram site RIUMU (Penicillium citrium) <3.125, RIZOPASU SUTORONI fur (Rhizopus stolonifer) It receives and they are >50 and Trichoderma (Trichoderma sp.). It receives and is 12.5-25.

Cori Ole Russ of a decay fungus As opposed to PAL tris (Coriolellus palutris) 3.125-6.25, police tee KUTASU Bell scraper (Polystitus versicolor) It receives and they are <3.125 and a serpula. RAKURI metric ounce (Serpula lacrymans) It receives and is 3.125-6.25.

[0019] Above-mentioned propiconazole is especially desirable at the point which is the low actual concentration which there is no problem in an odor, stimulativeness, and toxicity, and is moreover equal to high dilution use. [for example, the thing necessary actual concentration or whose concentration at the time of use is 1.0% in this invention like IPBC] If the necessary blending ratio of coal is 20 weight % when the undiluted solution for dilution is prepared 20 times, and the undiluted solution for dilution is prepared 40 times If the necessary blending ratio of coal is 40 weight % and the undiluted solution for dilution is prepared further 100 times The necessary blending ratio of coal becomes 100 weight %, and, now, can completely add other components.

[0020] The tralomethrin, bifenthrin, permethrin, the imidacloprid, fenobucarb, fipronil, and pyriproxifen which are the insecticidal component used for this invention are a well-known insecticidal component respectively. The compound name corresponding to the above-mentioned insecticidal component (general name) is shown below.

Tralomethrin: (S)-alpha - Cyano 3 - Phenoxybenzyl (R [1], 3S)-2 and 2-dimethyl 3-(1, 2, 2, and 2-tetrabromo ethyl) cyclopropane carbo KIRATO, bifenthrin: (2- methyl 1, 1 - biphenyl -3- IRU) -- methyl =3- (2-chloro 3, 3, and 3 - trifluoro 1 - propenyl 2 and 2 - dimethyl cyclopropane carboxylate --) Permethrin : 3-phenoxybenzyl (1RS)-****. transformer 3-(2 and 2-dichloro vinyl)-2 and 2-dimethyl cyclopropane carboxylate, Imidacloprid : 1-(6-chloro 3-pyridyl methyl)-N-nitroglycerine imidazolidine 2-ylidene amine, fenobucarb: -- 2-secondary buthylphenyl N-methylcarbamate fipronil: -- 5-friend note (2, 6-dichloro 4-trifluoro methylphenyl)-3-cyano 4-trifluoromethane sulfinyl pyrazole -- Pyriproxifen: 2-1-methyl 2-(4-phenoxyphenoxy) ethoxy] pyridine.

[0021] Each of these insecticidal components shows insecticidal or prevention-of-the-breeding-and-extermination nature to the termites and bark beetles which use wood as food, and there is no problem in an odor, stimulativeness, and toxicity. In addition, in this invention, although the above mentioned predetermined component is used as the essential ingredient, as long as there is no problem which is the other insecticidal component and was described above, you may use it with said essential ingredient.

[0022]

[Example] [Work example 1] After dissolving tralomethrin in polyoxyethylene alkyl ether by the blending ratio of coal (weight %) shown in Table 2, While mixing a sorbitan fatty acid ester with propiconazole uniformly to this and agitating this mixture in a xanthan gum aqueous solution (liquid which dissolved xanthan gum by making water into a diluent) It added, quality of all was equalized and the preservation from decay and the insecticide for wood were manufactured.

[0023] Moreover, in order to evaluate the obtained preservation from decay and the insecticide for wood, the following examinations were done and the result was written together all over Table 2.

[0024] a. The evaluation wood preservation-from-decay component, the insect-killing (ant-

killing) component, or both the components of manufacture cost are a solid in ordinary temperature, and it is pretreatment. When grinding is required, it is estimated as manufacture cost overrun value (x mark), and each of wood preservation-from-decay components and insect-killing (ant-killing) components is liquids in ordinary temperature. making it dissolve in a solvent, even if pretreatment of grinding or the dissolution is unnecessary or at least one side of both components is a solid in ordinary temperature -- case pharmaceutical preparation is possible -- manufacture cost -- it was estimated that it was inexpensive (O mark).

[0025] b. Two-step evaluation which considers as x mark what does not flow easily out of O mark and a container what flows out of a container easily about the flowability after fluidity test manufacture (viscosity at 20 degrees C: less than 3000 cP) (viscosity at 20 degrees C: 3000 or more cP) was performed.

[0026] c. After putting gently the undiluted solution of the preservation from decay and the insecticide for wood by which undiluted solution stability test manufacture was carried out for ten days at 50 degrees C or 0 degree C, two-step evaluation which considers that to which either [at least] O mark, separation or a crystal deposit took place the thing without separation and a crystal deposit as x mark was performed.

[0027] d. The undiluted solution of the preservation from decay and the insecticide for wood by which dilution stability test manufacture was carried out It diluted with water to predetermined dilution, and after putting gently for three days at 20 degrees C or 2 degrees C, two-step evaluation which considers as x mark what caused either O mark, separation, precipitation or a crystal deposit for what causes neither separation nor precipitation nor a crystal deposit was performed.

[0028]

[Table 2]

		実施例 1		比較例 1			比較例 2	
使用時の希釈倍数 (倍)		40	100	20	40①	40②	40	100
殺虫成分 (B1) : トロメスリン		2	5	1	2	2	2	5
防腐成分 (A1) : カビナール		2	5	—	—	—	—	—
防腐成分 (A2) : シロコナール		—	—	1	2	2	2	5
(B/A) の値		1	1	1	1	1	1	1
副成分	ポリビニルアルコール	6	15	—	—	—	—	—
	キシレン	—	—	20	25	25	—	—
	ソルビタン 脂肪酸エステル	5	5	5	5	5	5	5
	キサンタンガム	0.6	0.6	0.6	—	1.2	0.6	0.6
	ポリビニルアルコール	—	—	—	6.5	—	—	—
希釈率 (精製水)		84.4	69.4	72.4	59.5	64.8	90.4	84.4
製造コスト		○	○	○	○	○	×	×
流動性		○	○	○	○	×	○	○
原液安定性	50℃, 10日	○	○	○	×	○	○	○
	0℃, 10日	○	○	○	×	○	○	○
希釈液安定性	20℃, 3日	○	○	○	○	○	○	○
	2℃, 3日	○	○	○	○	○	○	○

[0029] propiconazole is used for a work example 1 as an insecticidal component so that clearly also from the result of Table 2 -- this formulation -- mixing -- being easy (inexpensive) -- it excelled in flowability, undiluted solution stability, and dilution stability, and the pharmaceutical preparation for the high dilution of 40 times or more was obtained.

[0030] [Comparative example 1] It is while mixing a sorbitan fatty acid ester uniformly and agitating this in the aqueous solution in which xanthan gum or polyvinyl alcohol was dissolved beforehand, after dissolving tralomethrin and cyproconazole in xylene by the blending ratio of coal shown in Table 2. It added, quality of all was equalized and the preservation from decay and insecticide **** for wood the preservation from decay and the insecticide for wood for 20 time dilution, and for 40 time dilution were manufactured.

[0031] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination a-d was performed and the result was written together all over Table 2.

[0032] In the comparative example 1, the cyproconazole which is the antiseptics of a kona ZORU system needed to dissolve in the organic solvent first, in order to have manufactured medicine like the work example 1, since it was a solid (fusing point of 103-105 degrees C) in ordinary temperature. In this case, since the amount of oil increased, the pharmaceutical

preparation for the high dilution of 40 times or more which does not have a problem in flowability, undiluted solution stability, and dilution stability was not obtained.

[0033] [Comparative example 2] Tralomethrin and cyproconazole were beforehand impalpable-powder-ized in grain size of 10 micrometers or less using Jet-O-Miser (grinder) by the blending ratio of coal shown in Table 2. It added agitating this with a sorbitan fatty acid ester in the aqueous solution in which xanthan gum was dissolved beforehand, quality of all was equalized, and the preservation from decay and the insecticide for wood were manufactured.

[0034] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination a-d was performed and the result was written together all over Table 2.

[0035] The cyproconazole which is the antiseptics of a kona ZORU system is used for the comparative example 2. In order to obtain the pharmaceutical preparation for the high dilution of 40 times or more which does not have a problem in flowability, undiluted solution stability, and dilution stability, cyproconazole needed to be pulverized in grain size of 10 micrometers or less with the grinder, increase of manufacture cost was caused, and desirable pharmaceutical preparation was not made.

[0036] [Work example 2] After dissolving tralomethrin in polyoxyethylene alkyl ether by the blending ratio of coal shown in Table 3, add propiconazole, Emulsifier A, and propylene glycol, carry out a mixture solution uniformly, add the purified water of the specified quantity, mix and equalize quality of all. The preservation from decay and the insecticide for wood for 40 time dilution were manufactured.

[0037] Moreover, after dissolving tralomethrin in polyoxyethylene alkyl ether by the blending ratio of coal shown in Table 3, propiconazole and a sorbitan fatty acid ester were added and uniform mixed liquor was manufactured. Subsequently, it mixed adding said mixed liquor gradually in the aqueous solution made to dissolve polyvinyl alcohol in the purified water of the specified quantity, quality of all was equalized, and the preservation from decay and the insecticide for wood for 100 time dilution were manufactured.

[0038] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 3.

[0039]

[Table 3]

		実施例 2		比 較 例 3			比 較 例 4			
使用時の希釈倍数 (倍)		40	100	10	20①	20②	40	20	40①	40②
殺菌成分(B1) : トロメスリン		2	5	0.5	1.0	1.0	2	1.0	2	2
防腐成分(A1) : フェニルノール		2	5	—	—	—	—	—	—	—
防腐成分(A3) : IPBC		—	—	10	20	20	40	—	—	—
防腐成分(A4) : ユグラス		—	—	—	—	—	—	20	40	40
(B/A) の 値		1	1	0.05	0.05	0.05	0.05	0.05	0.05	0.05
副成分	ポリメチレンポリメーカ	6	15	10	20	—	—	15	—	—
	ポリエーグリコール	15	—	15	15	—	—	—	—	—
	乳化剤A	25	—	30	40	—	—	—	—	—
	ソルビタン 脂肪酸エステル	—	5	—	—	5	5	5	5	5
	ポリエーグリコール	—	7	—	—	—	—	6	—	—
	キサンタン	—	—	—	—	0.5	1.0	—	0.6	1.2
希釈剤 (精製水)		50.0	63.0	34.5	4	73.5	52.0	53	52.4	51.8
流動性		○	○	○	○	○	×	○	○	×
原液安定性	50℃, 10日	○	○	○	○	×	×	○	×	○
	0℃, 10日	○	○	○	×	×	×	○	×	×
希釈液安定性	20℃, 3日	○	○	○	○	○	×	○	○	○
	2℃, 3日	○	○	○	×	×	×	○	×	○

[0040] [Comparative example 3] Add Emulsifier A and propylene glycol, carry out a mixture solution uniformly, carry out addition mixing of the purified water of the specified quantity further, and equalize quality of all, after dissolving tralomethrin and IPBC in polyoxyethylene alkyl ether by the blending ratio of coal shown in Table 3. The preservation from decay and insecticide ** for wood for the object for 10 time dilution or 20 time dilution were manufactured.

[0041] Moreover, tralomethrin and IPBC were beforehand impalpable-powder-ized in grain size of 10 micrometers or less using Jet-O-Miser (grinder) by the blending ratio of coal shown in Table 3. It added agitating this with a sorbitan fatty acid ester in a xanthan gum aqueous solution, quality of all was equalized, and the preservation from decay and the insecticide for wood for preservation-from-decay and insecticide for 20 time diluent wood ** or 40 time dilution were manufactured.

[0042] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 3.

[0043] [Comparative example 4] In the manufacture method of of the preservation from decay and the insecticide for wood for 100 time dilution in a work example 2, it replaced with

propiconazole, Sampras was used and the preservation from decay and the insecticide for wood for 20 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 3.

[0044] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution of a comparative example 3, it replaced with IPBC, Sampras was used and the preservation from decay and insecticide **** for wood for 40 time dilution were manufactured completely like the comparative example 3 except having considered it as the blending ratio of coal shown in Table 3.

[0045] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 3.

[0046] [Work example 3] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution in a work example 2, It replaced with tralomethrin, and bifenthrin was used, it replaced with polyoxyethylene ether, and xylene was used, and it replaced with Emulsifier A, Emulsifier B was used, and the preservation from decay and the insecticide for wood for 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 4.

[0047] In the manufacture method of of the preservation from decay and the insecticide for wood for 100 time dilution in a work example 2, It replaced with polyoxyethylene alkyl ether, and xylene was used, it replaced with tralomethrin, bifenthrin was used, and the object for 100 time dilution, and the preservation from decay and the insecticide for wood for 200 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 4.

[0048] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 4.

[0049]

[Table 4]

		実 施 例 3			比 較 例 5			比 較 例 6			
使用時の希釈倍率 (倍)		40	100	200	10	20①	20②	40	20	40①	40②
殺菌成分(B2) : E7エトリン		2	5	10	0.5	1.0	1.0	2	1.0	2	2
防腐成分(A1) : カビナール		2	5	10	—	—	—	—	—	—	—
防腐成分(A3) : IPBC		—	—	—	10	20	20	40	—	—	—
防腐成分(M) : キンナ		—	—	—	—	—	—	—	20	40	40
(B/A) の値		1	1	1	0.05	0.05	0.05	0.05	0.05	0.05	0.05
副成分	キシレン	5	10	20	—	—	—	—	—	—	—
	トリクロロベンゼン	—	—	—	10	20	—	—	15	—	—
	カビナール	15	—	—	15	15	—	—	—	—	—
	乳化剤B	25	—	—	30	40	—	—	—	—	—
	ワセリン 脂肪酸エステル	—	5	5	—	—	5	5	5	5	5
	ポリエチレングリコール	—	7.5	5.5	—	—	—	—	6	—	—
	キサンタン	—	—	—	—	—	0.5	1.0	—	0.6	1.5
希釈剤 : (精製水)		51	67.5	49.5	34.5	4	73.5	52	53	52.4	51.5
流動性		○	○	○	○	○	○	×	○	○	×
原液安定性	50℃、10日	○	○	○	○	○	×	×	○	×	○
	0℃、10日	○	○	○	○	×	×	×	○	×	×
希釈液安定性	20℃、3日	○	○	○	○	○	○	×	○	○	○
	2℃、3日	○	○	○	○	×	×	×	○	×	×

[0050] [Comparative example 5] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution in a work example 2, It replaced with tralomethrin, bifenthrin was used and it replaced with propiconazole, and IPBC was used, it replaced with Emulsifier A, Emulsifier B was used, and the preservation from decay and insecticide ** for wood for the object for 10 time dilution and 20 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 4.

[0051] In the manufacture method of of the preservation from decay and the insecticide for wood preservation-from-decay and insecticide for wood ** in a comparative example 3, and for 40 time dilution, [for 20 time dilution] It replaced with tralomethrin, bifenthrin was used and the preservation from decay and the insecticide for wood for preservation-from-decay and insecticide for wood ** and 40 time dilution were completely similarly manufactured, respectively except having considered it as the blending ratio of coal shown in Table 4. [for 20 time dilution]

[0052] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 4.

[0053] [Comparative example 6] In the manufacture method of of the preservation from decay and the insecticide for wood for 100 time dilution in a work example 2, It replaced with tralomethrin, and bifenthrin was used, it replaced with propiconazole, Sampras was used, and the preservation from decay and the insecticide for wood for 20 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 4.

[0054] In the manufacture method of of the preservation from decay and the insecticide for wood preservation-from-decay and insecticide for wood ** in a comparative example 3, or for 40 time dilution, [for 20 time dilution] It replaced with tralomethrin, and bifenthrin was used, it replaced with IPBC, Sampras was used, and the preservation from decay and insecticide **** for wood for 40 time dilution were completely similarly manufactured, respectively except having considered it as the blending ratio of coal shown in Table 4.

[0055] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 4.

[0056] [Work example 4] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution in a work example 2, It replaced with tralomethrin, and imidacloprid was used, it replaced with Emulsifier A, Emulsifier B was used, and the preservation from decay and the insecticide for wood for 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 5.

[0057] In the manufacture method of of the preservation from decay and the insecticide for wood for 100 time dilution in a work example 2, it replaced with tralomethrin, imidacloprid was used and the object for 100 time dilution, and the preservation from decay and the insecticide for wood for 200 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 5.

[0058] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 5.

[0059]

[Table 5]

tralomethrin, and imidacloprid was used, it replaced with propiconazole, Sampras was used, and the preservation from decay and the insecticide for wood for 20 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 5.

[0064] In the manufacture method of of the preservation from decay and the insecticide for wood preservation-from-decay and insecticide for wood ** in a comparative example 3, or for 40 time dilution, [for 20 time dilution] It replaced with tralomethrin, and imidacloprid was used, it replaced with IPBC, Sampras was used, and the preservation from decay and insecticide **** for wood for 40 time dilution were completely similarly manufactured, respectively except having considered it as the blending ratio of coal shown in Table 5.

[0065] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 5.

[0066] [Work example 5] Permethrin, propiconazole, Emulsifier A, and propylene glycol were added by the blending ratio of coal shown in Table 6, the mixture solution was carried out uniformly, a fixed quantity of purified water was added, it mixed, quality of all was equalized, and the preservation from decay and the insecticide for wood for 40 time dilution were manufactured.

[0067] Moreover, permethrin, propiconazole, and a sorbitan fatty acid ester were added by the blending ratio of coal shown in Table 6, and uniform mixed liquor was manufactured. Subsequently, it mixed adding gradually in the aqueous solution in which the purified water of the specified quantity was made to dissolve polyvinyl alcohol, quality of all was equalized, and the preservation from decay and the insecticide for wood for 100 time dilution were manufactured.

[0068] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 6.

[0069]

[Table 6]

		実施例 5		比較例 9			比較例 10		
使用時の希釈倍数 (倍)		40	100	10	20①	20②	40	20	40① 40②
殺菌成分(B3) : ヴェルメイ		8	20	2	4	4	8	4	8 8
防腐成分(A1) : プロピコナゾール		2	5	—	—	—	—	—	—
防腐成分(A3) : IPBC		—	—	10	20	20	40	—	—
防腐成分(A4) : シンナール		—	—	—	—	—	20	40	40
(B/A) の値		4	4	0.2	0.2	0.2	0.2	0.2	0.2
副成分	樹林メチルシリケート	—	—	10	—	—	—	20	—
	フェニルグリコール	15	—	15	—	—	—	—	—
	乳化剤A	25	—	30	—	—	—	—	—
	ノドネン 脂肪酸エステル	—	5	—	5	5	5	5	5
	ポリビニルアルコール	—	7	—	—	—	5	—	—
	キヤンサン	—	—	—	0.6	1.2	1.2	—	0.6 1.2
希釈剤 : (精製水)		50	63	33	70.4	69.8	45.8	46	46.4 45.8
流動性		○	○	○	○	×	×	○	○ ×
原液安定性	50℃, 10日	○	○	○	×	○	×	○	×
	0℃, 10日	○	○	○	×	×	×	○	×
希釈液安定性	20℃, 3日	○	○	○	○	○	×	○	○
	2℃, 3日	○	○	○	×	×	×	○	×

[0070] [Comparative example 9] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution in a work example 2, It replaced with tralomethrin, and permethrin was used, it replaced with propiconazole, IPBC was used, and the preservation from decay and the insecticide for wood for 10 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 6.

[0071] In the manufacture method of of the preservation from decay and the insecticide for wood preservation-from-decay and insecticide for wood ** in a comparative example 3, or for 40 time dilution, [for 20 time dilution] It replaced with tralomethrin, permethrin was used and the preservation from decay and the insecticide for wood for preservation-from-decay and insecticide for wood **** and 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 6. [for 20 time dilution]

[0072] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 6.

[0073] [Comparative example 10] In the manufacture method of of the preservation from decay

and the insecticide for wood for 100 time dilution in a work example 2, It replaced with tralomethrin, and permethrin was used, it replaced with propiconazole, Sampras was used, and the preservation from decay and the insecticide for wood for 20 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 6.

[0074] Moreover, in the manufacture method of of the preservation from decay and the insecticide for wood preservation-from-decay and insecticide for wood ** in a comparative example 3, or for 40 time dilution, [for 20 time dilution] It replaced with tralomethrin, permethrin was used and the preservation from decay and insecticide **** for wood for 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 6.

[0075] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 6.

[0076] [Work example 6] By the blending ratio of coal shown in Table 7, Fenobucarb MC and propiconazole were added agitating with a sorbitan fatty acid ester to a PVA solution, quality of all was equalized, and the preservation from decay and the insecticide for wood for 40 time dilution were manufactured.

[0077] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 7.

[0078]

[Table 7]

		実施例 6	比較例 1 1				比較例 1 2			
使用時の希釈倍数 (倍)		40	5	10①	10②	40	5	10①	10②	40
殺菌成分(B4):フェノカル MC		30	3.75	7.5	7.5	30	3.75	7.5	7.5	30
防腐成分(A1):カビナール		2	—	—	—	—	—	—	—	—
防腐成分(A3):IPBC		—	5	10	10	40	—	—	—	—
防腐成分(A4):キシマス		—	—	—	—	—	5	10	10	40
(B/A) の値		15	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
副成分	ポリオキシエチレンアルキル	—	10	20	20	—	5	10	10	—
	ポリエチレングリコール	—	—	—	—	—	—	—	—	—
	乳化剤 B	—	—	—	—	—	—	—	—	—
	ソルビタン 脂肪酸エステル	5	5	5	5	5	5	5	5	5
	ポリエチレングリコール	6	—	—	—	—	—	—	—	—
	キシマス	—	0.6	0.6	1.2	1.2	0.6	0.6	1.2	1.2
希釈剤: (精製水)		57	75.65	56.9	56.3	23.8	80.65	66.9	66.3	23.8
流動性		○	○	○	×	×	○	○	×	×
原液安定性	50℃, 10日	○	○	×	○	×	○	×	○	×
	0℃, 10日	○	○	×	×	×	○	×	×	×
希釈液安定性	20℃, 3日	○	○	○	○	×	○	○	○	×
	2℃, 3日	○	×	×	×	×	○	×	○	×

[0079] [Comparative example 11] It is a sorbitan fatty acid ester in a xanthan gum aqueous solution about the liquid and Fenobucarb MC in which polyoxyethylene alkyl ether was made to dissolve IPBC by the blending ratio of coal shown in Table 7. It added agitating, quality of all was equalized, and the preservation from decay and insecticide **** for wood the preservation from decay and the insecticide for wood for 5 time dilution, and for 10 time dilution were manufactured.

[0080] By the blending ratio of coal shown in Table 7, IPBC was beforehand pulverized in grain size of 10 micrometers or less with Jet-O-Miser, and it added, agitating this with Fenobucarb MC and a sorbitan fatty acid ester in a xanthan gum aqueous solution, quality of all was equalized, and the preservation from decay and the insecticide for wood for 40 time dilution were manufactured.

[0081] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 7.

[0082] [Comparative example 12] In the manufacture method of of the preservation from decay and the insecticide for wood for 5 time dilution in a comparative example 11, the preservation

from decay and the insecticide for wood for 5 time dilution, or the preservation from decay for wood and insecticide [for 10 time dilution] **** was completely similarly manufactured by the combination presentation shown in Table 7 except having replaced with IPBC and having used Sampras.

[0083] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution of a comparative example 11, it replaced with IPBC, Sampras was used and the preservation from decay and the insecticide for wood for 40 time dilution were completely similarly manufactured except having considered it as the combination presentation shown in Table 7.

[0084] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 7.

[0085] [Work example 7] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution in a work example 4, it replaced with imidacloprid, fipronil was used and the preservation from decay and the insecticide for wood for 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 8.

[0086] In the manufacture method of of the object for 100 time dilution in a work example 4, and the preservation from decay and the insecticide for wood for 200 time dilution, It replaced with imidacloprid, fipronil was used and the object for 100 time dilution, and the preservation from decay and the insecticide for wood for 200 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 8.

[0087] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 8.

[0088]

[Table 8]

		実 施 例 7			比 較 例 1 3			比 較 例 1 4			
使用時の希釈倍数 (倍)		40	100	200	10	20①	20②	40	20	40①	40②
殺菌成分(B5) : フィプロニル		2	5	10	0.5	1	1	2	1	2	2
防腐成分(A1) : プロピナール		2	5	10	—	—	—	—	—	—	—
防腐成分(A3) : IPBC		—	—	—	10	20	20	40	—	—	—
防腐成分(A4) : ナフタス		—	—	—	—	—	—	—	20	40	40
(B/A) の値		1	1	1	0.05	0.05	0.05	0.05	0.05	0.05	0.05
副成分	ポリキシレンフェニルエーテル	5	10	20	10	—	—	—	20	—	—
	プロピノグリニール	15	—	—	15	—	—	—	—	—	—
	乳化剤B	25	—	—	30	—	—	—	—	—	—
	ソルビタン 脂肪酸エステル	—	5	5	—	5	5	5	5	5	5
	ポリビニルアルコール	—	7.5	5.5	—	—	—	—	5.5	—	—
	ネオノキソール	—	—	—	—	0.6	1.2	1.2	—	0.6	1.2
希釈剤 : (精製水)		51	67.5	49.5	34.5	73.4	72.8	51.8	48.5	52.8	51.8
流動性		○	○	○	○	○	×	×	○	○	×
原液安定性	50℃, 10日	○	○	○	○	×	○	×	○	×	×
	0℃, 10日	○	○	○	○	×	×	×	○	×	×
希釈液安定性	20℃, 3日	○	○	○	○	○	○	×	○	○	×
	2℃, 3日	○	○	○	×	×	×	×	○	×	×

[0089] [Comparative example 13] In the manufacture method of of the preservation from decay and the insecticide for wood for 10 time dilution in a comparative example 7, it replaced with imidacloprid, fipronil was used and the preservation from decay and the insecticide for wood for 10 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 8.

[0090] In the manufacture method of of the preservation from decay and the insecticide for wood preservation-from-decay and insecticide for wood **** in a comparative example 7, and for 40 time dilution, [for 20 time dilution] It replaced with imidacloprid, fipronil was used and the preservation from decay and the insecticide for wood for preservation-from-decay and insecticide for wood **** and 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 8. [for 20 time dilution]

[0091] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 8.

[0092] [Comparative example 14] In the manufacture method of of the preservation from decay and the insecticide for wood for 20 time dilution in a comparative example 8, it replaced with

imidacloprid, fipronil was used and the preservation from decay and the insecticide for wood for 20 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 8.

[0093] In the manufacture method of of the preservation from decay and insecticide **** for wood for 40 time dilution in a comparative example 8, it replaced with imidacloprid, fipronil was used and the preservation from decay and insecticide **** for wood for 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 8.

[0094] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 8.

[0095] [Work example 8] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution in a work example 2, It replaced with tralomethrin, and pyriproxifen was used, it replaced with polyoxyethylene alkyl ether, PEG200 were used, and the preservation from decay and the insecticide for wood for 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 9.

[0096] In the manufacture method of of the preservation from decay and the insecticide for wood for 100 time dilution in a work example 2, it replaced with tralomethrin, pyriproxifen was used and the object for 100 time dilution, and the preservation from decay and the insecticide for wood for 200 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 9.

[0097] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 9.

[0098]

[Table 9]

		実 施 例 8			比 較 例 1 5			比 較 例 1 6			
使用時の希釈倍数 (倍)		40	100	200	10	20①	20②	40	20	40①	40②
殺菌成分(B6):E770シワロン		2	5	10	0.5	1	1	2	1	2	2
防腐成分(A1):プロピコナール		2	5	10	—	—	—	—	—	—	—
防腐成分(A3):IPBC		—	—	—	10	20	20	40	—	—	—
防腐成分(A4):シナブラス		—	—	—	—	—	—	—	20	40	40
(B/A) の 値		1	1	1	0.05	0.05	0.05	0.05	0.05	0.05	0.05
調 成 分	ポリエチレングリコール:PEG200	2	—	—	—	—	—	—	—	—	—
	ポリシメチレンアクリレート	—	5	10	10	20	—	—	20	—	—
	カレックス	15	—	—	15	—	—	—	—	—	—
	乳化剤A	15	—	—	30	—	—	—	—	—	—
	ソルベタン 脂肪族炭化水素	—	5	5	—	5	5	5	5	5	5
	グリセリン	—	8	6.5	—	5.4	—	—	5.4	—	—
	セチルアルコール	—	—	—	—	—	1.5	1.5	—	0.6	1.2
希釈剤: (精製水)		64	72	58.5	34.5	48.6	72.5	51.5	48.6	52.4	51.8
流動性		○	○	○	○	○	×	×	○	○	×
原液安定性	50℃、10日	○	○	○	○	×	○	×	○	×	○
	0℃、10日	○	○	○	○	×	×	×	○	×	×
希釈液安定性	20℃、3日	○	○	○	○	○	○	×	○	○	○
	2℃、3日	○	○	○	○	×	×	×	○	×	×

[0099] [Comparative example 15] In the manufacture method of of the preservation from decay and the insecticide for wood for 40 time dilution in a work example 2, It replaced with tralomethrin, and pyriproxifen was used, it replaced with propiconazole, IPBC was used, and the preservation from decay and the insecticide for wood for 10 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 9.

[0100] In the manufacture method of of the preservation from decay and the insecticide for wood for 100 time dilution in a work example 2, It replaced with tralomethrin, and pyriproxifen was used, it replaced with propiconazole, IPBC was used, and the preservation from decay and insecticide ** for wood for 20 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 9.

[0101] In the manufacture method of of the preservation from decay and the insecticide for wood preservation-from-decay and insecticide for wood ** in a comparative example 3, or for 40 time dilution, [for 20 time dilution] It replaced with tralomethrin, pyriproxifen was used and

the preservation from decay and the insecticide for wood for preservation-from-decay and insecticide for wood ** and 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 9. [for 20 time dilution] [0102] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 9.

[0103] [Comparative example 16] In the manufacture method of of the preservation from decay and the insecticide for wood for 100 time dilution in a work example 2, It replaced with tralomethrin, and pyriproxifen was used, it replaced with propiconazole, Sampras was used, and the preservation from decay and insecticide ** for wood for 20 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 9.

[0104] In the manufacture method of of the preservation from decay and the insecticide for wood preservation-from-decay and insecticide for wood ** in a comparative example 3, or for 40 time dilution, [for 20 time dilution] It replaced with tralomethrin, and pyriproxifen was used, it replaced with IPBC, Sampras was used, and the preservation from decay and insecticide **** for wood for 40 time dilution were completely similarly manufactured except having considered it as the blending ratio of coal shown in Table 9.

[0105] In order to evaluate the obtained preservation from decay and the insecticide for wood, aforementioned examination b-d was performed and the result was written together all over Table 9.

[0106]

[Effect of the Invention] This invention is having considered it as the preservation from decay and the insecticide for wood which adopted propiconazole as a wood preservation-from-decay component, and adopted the predetermined insecticidal component, and was prepared, as explained above, There is an advantage which this thing is simple for the preparation processes as liquids and solutions, and serves as high-concentration preservation from decay and insecticide for wood which can be diluted with water, excluding a solvent so much, and serves as preservation from decay and an insecticide for wood where an undiluted solution and a diluted solution did not dissociate for a long time but, which excelled [diluted solution] in stability.

[0107] Moreover, this invention is having blended the compounding weight ratio (B/A) of the wood preservation-from-decay component (A) and the insecticidal component (B) in 1.0-15.0, There is an advantage that the preservation from decay and the insecticide for wood turn into high concentration nature liquids and solutions which can be used for the high dilution magnification of 100 times or more especially preferably 40 or more times in addition to the above-mentioned advantage.

[Translation done.]